Claims

[c1] 1. A poly(arylene ether) blend comprising, based on 100 wt.% of the total blend:

about 10 to about 90 wt.% of a poly(arylene ether) resin;

about 5 to about 50 wt.% of a rubber-modified poly(styrene) resin that is a tapered block copolymer; and

about 2 to about 35 wt.% of an organic phosphate flame retardant;

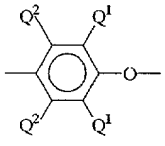
wherein the blend has a percent transmittance after molding of at least about 35% measured at 1/8 inch thickness.

[c2] 2. The poly(arylene ether) blend of Claim 1, wherein the organic phosphate flame retardant is the bis diphenyl phosphate of bis-phenol A.

[c3] 3. The poly(arylene ether) blend of Claim 1, wherein the organic phosphate flame retardant is triphenylphosphate.

[c4] 4. The poly(arylene ether) blend of Claim 1, wherein the organic phosphate flame retardant is the bis diphenyl phosphate of resorcinol.

[c5] 5. The poly(arylene ether) blend of Claim 1, wherein the poly(arylene ether) resin comprises a plurality of structural units of the formula (II):



(II)

wherein for each structural unit, each Q^1 is independently hydrogen, halogen, primary or secondary lower alkyl having up to about 7 carbon atoms, phenyl, haloalkyl, aminoalkyl, hydrocarbonoxy, or halohydrocarbonoxy wherein at least two carbon atoms separate the halogen and oxygen atoms; and each Q^2 is independently hydrogen, halogen, primary or secondary lower alkyl having up to 7 carbon atoms, phenyl, haloalkyl, hydrocarbonoxy or halohydrocarbonoxy wherein at least two carbon atoms separate the halogen and oxygen atoms.

[c6] 6. The poly(arylene ether) blend of Claim 5, wherein each Q^1 is an alkyl group having from 1 to 4 carbon atoms, and each Q^2 is hydrogen.

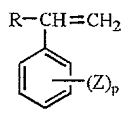
[c7] 7. The poly(arylene ether) blend of Claim 1, wherein the poly(arylene ether) resin is selected from the group consisting of homopolymer resins containing

2,6-dimethylphenylene ether units, random copolymer resins having 2,6-dimethylphenylene ether units in combination with 2,3,6-trimethyl-1,4-phenylene ether units, and copolymer resins derived from copolymerization of 2,6-dimethylphenol with 2,3,6-trimethylphenol.

[c8] 8. The poly(arylene ether) blend of Claim 1, wherein the rubber-modified poly (styrene) comprises up to about 50% diene monomer units.

[c9] 9. The poly(arylene ether) blend of Claim 1, further comprising about 1 to about 80 wt.% of a poly(styrene) resin.

[c10] 10. The poly(arylene ether) blend of Claim 9, wherein the poly(styrene) resin is formed from one or more monomers having the formula (III):



(III)

wherein R is hydrogen, a lower alkyl group having from 1 to 7 carbons, or a halogen; Z is a vinyl group, a halogen, or a lower alkyl group having from 1 to 7 carbon atoms; and p is from 0 to 5.

[c11] 11. The poly(arylene ether) blend of Claim 9, wherein the poly(styrene) resin is formed from one or more of styrene, chlorostyrene, vinyltoluene, alpha-methyl styrene, bromostyrene, dichlorostyrene, and dibromostyrene.

[c12] 12. The poly(arylene ether) blend of Claim 9, wherein the poly(styrene) resin is a homopoly(styrene).

[c13] 13. The poly(arylene ether) blend of Claim 9, wherein the poly(styrene) resin is derived from styrene and up to about 10 wt.% monomers having the formula (III) wherein R is a lower alkyl group having from 1 to 7 carbons or a halogen.

[c14] 14. The poly(arylene ether) blend of Claim 1 further comprising about 1 to about 15 wt.% of an impact modifier.

[c15]

15. The poly(arylene ether) blend of Claim 14, wherein the impact modifier is selected from the group consisting of styrene-butadiene-styrene, styrene-butadiene, styrene-ethylene-butadiene, styrene-ethylene-propylene, styrene-

ethylene-butadiene-styrene, styrene-ethylene-propylene-styrene, styrene acrylates, and combinations comprising at least one of the foregoing.

[c16] 16. The poly(arylene ether) blend of Claim 15, wherein the impact modifier is a styrene-butadiene or a styrene-butadiene-styrene block copolymer.

[c17] 17. The poly(arylene ether) blend of Claim 1, further comprising one or more of fillers, anti-oxidants, mold release agents, UV absorbers, stabilizers, lubricants, plasticizers, pigments, dyes, colorants, anti-static agents, and blowing agents.

[c18] 18. A transparent poly(arylene ether) blend comprising, based on 100 wt.% of the total blend:

about 10 to about 70 wt.% of a poly(arylene ether) resin;

about 10 to about 40 wt.% of a rubber-modified poly(styrene) resin that is a tapered block copolymer;

about 10 to about 70 wt.% of a poly(styrene) resin;

about 0 to about 10 wt.% of an impact modifier; and

about 5 to about 30 wt.% of an organic phosphate flame retardant;

wherein the blend has a percent transmittance after molding of at least about 35% measured at 1/8 inch thickness.

[c19] 19. A transparent poly(arylene ether) blend comprising, based on 100 wt.% of the total blend:

about 30 to about 60 wt.% of a poly(arylene ether) resin;

about 15 to about 35 wt.% of a rubber-modified poly(styrene) resin that is a tapered block copolymer;

about 20 to about 50 wt.% of a poly(styrene) resin;

about 0 to about 5 wt.% of a impact modifier; and

about 10 to about 25 wt.% of an organic phosphate flame retardant;

wherein the blend has a percent transmittance after molding of at least about 35% measured at 1/8 inch thickness.

[c20] 20. The poly(arylene ether) blend of Claim 1, wherein the blend has a UL rating of V-0.

[c21] 21. The poly(arylene ether) blend of Claim 1, wherein the blend has a UL rating

of V-1.

[c22] 22. The poly(arylene ether) blend of Claim 1, wherein the blend has a UL rating of V-2.

[c23] 23. The poly(arylene ether) blend of Claim 1, wherein after being set on fire the blend will extinguish itself in about 10 seconds or less.

[c24] 24. The poly(arylene ether) blend of Claim 1, wherein after being set on fire the blend will extinguish itself in about 20 seconds or less.

[c25] 25. The poly(arylene ether) blend of Claim 1, wherein after being set on fire the blend will extinguish itself in about 30 seconds or less.

[c26] 26. The poly(arylene ether) blend of Claim 1, wherein the poly(arylene ether) resin has a number average molecular weight of about 3,000 to about 40,000 and a weight average molecular weight of about 20,000 to about 80,000, as determined by gel permeation chromatography.